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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,512	07/24/2003	Yoshifumi Inoue	240627US0	9013

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EXAMINER

ROBERTSON, JEFFREY

ART UNIT PAPER NUMBER

1712

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,512

Applicant(s)

INOUE, YOSHIFUMI

Examiner

Jeffrey B. Robertson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: For claim 4, "n" is not defined. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 7, 8, and 10-16 are rejected under 35 USC 102(b) as being anticipated by Yada et al. (U.S. Patent No. 5,271,612).

For claims 1, 7, and 8, Yada teaches a composition that contains an epoxy resin having at least two epoxy groups within the molecule, foaming agent with a decomposition temperature between 100-220° C, and a curing agent. Col. 2, lines 28-36. For claim 2, Yada teaches epoxy resins such as bisphenol A epoxy resins. Col. 3, lines 11-28. Note that none of these epoxy resins are halogenated.

For claims 3, 14 and 15, Yada teaches aromatic amines including phenylene diamine and phenols such as tris(dimethylaminomethyl)phenol are used as curing

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agents where the curing agent is added in an amount of 0.5-20 parts by weight. Col. 3, lines 41-56.

For claim 13, Yada discloses foaming agents such as azodicarbonamide. Col. 4, lines 18-25. For claims 10-12, Yada does not expressly teach the amount of gas generated from the foaming agent. However, this appears to be an inherent property of the foaming agent used.

For claim 16, Yada teaches the addition of a filler. Col. 6, lines 49-60.

4. Claims 1-3, 7, 8, and 10-16 are rejected under 35 USC 102(b) as being anticipated by Kagoshima et al. (U.S. Patent No. 5,274,006).

For claims 1, 7, and 8, Kagoshima teaches a composition that contains an epoxy resin having at least two epoxy groups within the molecule, foaming agent with a decomposition temperature between 100-220° C, and a curing agent. Col. 2, lines 45-53. For claim 2, Kagoshima teaches epoxy resins such as bisphenol A epoxy resins. Col. 2, line 64 through col. 3, line 6. Note that none of these epoxy resins are halogenated.

For claims 3, 14 and 15, Kagoshima teaches aromatic amines including phenylene diamine and phenols such as tris(dimethylaminomethyl)phenol are used as curing agents where the curing agent is added in an amount of 0.5-20 parts by weight. Col. 3, lines 14-41.

For claim 13, Kagoshima discloses foaming agents such as azodicarbonamide. Col. 4, lines 4-7. For claims 10-12, Kagoshima does not expressly teach the amount of

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gas generated from the foaming agent. However, this appears to be an inherent property of the foaming agent used.

For claim 16, Kagoshima teaches the addition of a filler. Col. 6, lines 23-28.

5. Claims 1-3 and 7-16 are rejected under 35 USC 102(b) as being anticipated by Lamon et al. (U.S. Patent No. 5,453,453).

For claim 1, Lamon teaches halogen-free compositions that contain an epoxy resin, foaming agent, and a curing agent. Col. 2, lines 10-19. For claim 2, Lamon teaches epoxy resins such as bisphenol A epoxy resins having at least two epoxy groups within the molecule. Col. 3, lines 23-54.

For claims 3, 14 and 15, Lamon teaches aromatic amines and phenols are used as curing agents where the curing agent is added in an amount of 0.5-30 parts by weight. Col. 4, lines 5-22.

For claim 9, Lamon teaches sodium borohydride foaming agents, which has a decomposition melting point of 400 degrees. Col. 5, line 15.

For claim 13, Lamon discloses foaming agents such as azodicarbonamide. Col. 5, lines 4-18. For claims 7, 8, and 10-12, Lamon does not expressly teach the amount of gas generated from the foaming agent or the decomposition temperature. However, this appears to be an inherent property of the foaming agent used.

For claim 16, Lamon teaches the addition of a filler. Col. 6, lines 5-7.

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6. Claims 1-3 and 7-16 are rejected under 35 USC 102(b) as being anticipated by Close (U.S. Patent No. 5,996,167).

For claim 1, Close teaches compositions that contain an epoxy resin, foaming agent, and a curing agent. Col. 3, lines 14-21. For claim 2, Close teaches epoxy resins such as bisphenol A epoxy resins having at least two epoxy groups within the molecule. Col. 7, lines 31-45. Note that these epoxy resins are not halogenated.

For claims 3, 14 and 15, Close teaches aromatic amines and phenols are used as curing agents where the curing agent is added in an amount of 0.5-30 parts by weight. Col. 7, line 57 through col. 8, line 38.

For claim 9, Close teaches sodium borohydride foaming agents, which has a decomposition melting point of 400 degrees. Col. 8, line 66.

For claim 13, Close discloses foaming agents such as azodicarbonamide. Col. 8, lines 55-65. For claims 7, 8, and 10-12, Close does not expressly teach the amount of gas generated from the foaming agent or the decomposition temperature. However, this appears to be an inherent property of the foaming agent used.

For claim 16, Close teaches the addition of a filler. Col. 9, lines 7-12.

7. Claims 1-3, 7, 8, 10-13, 15, and 16 are rejected under 35 USC 102(e) as being anticipated by Harrison (U.S. Patent No. 6,376,564).

For claim 1, Harrison teaches compositions that contain an epoxy resin, foaming agent, and a curing agent. Col. 2, lines 15-21. For claim 2, Harrison teaches epoxy

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resins such as bisphenol A epoxy resins having at least two epoxy groups within the molecule. Col. 2, lines 32-66. Note that these epoxy resins are not halogenated.

For claims 3 and 15, Harrison teaches that amines are used as curing agents where the curing agent is added in an amount of 0.5-8% by weight. Col. 3, line 49 through col. 4, line 57.

For claim 13, Harrison discloses foaming agents such as azodicarbonamide. Col. 3, lines 3-10. For claims 7, 8, and 10-12, Harrison does not expressly teach the amount of gas generated from the foaming agent or the decomposition temperature. However, this appears to be an inherent property of the foaming agent used.

For claim 16, Harrison teaches the addition of a filler. Col. 5, lines 4-50.

8. Claims 1-8, and 10-16 are rejected under 35 USC 102(e) as being anticipated by Czaplicki et al. (U.S. Patent No. 6,846,559).

For claims 1 and 16, Czaplicki teaches compositions that contain an epoxy resin, foaming agent, filler, and a curing agent. Col. 2, lines 25-32. For claim 2, Czaplicki teaches epoxy resins such as bisphenol A epoxy resins having at least more than one epoxy group within the molecule. Col. 2, lines 52-63, Col. 3, line 10.

For claims 3-6, 14 and 15, Czaplicki teaches phenol novolak resins used as curing agents where the curing agent is added in an amount of up to 7% by weight. Col. 4, lines 25-42.

For claim 13, Czaplicki discloses foaming agents such as azodicarbonamide. Col. 3, lines 55-60. For claims 7, 8, and 10-12, Czaplicki does not expressly teach the

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amount of gas generated from the foaming agent or the decomposition temperature.

However, this appears to be an inherent property of the foaming agent used.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 17 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kagoshima et al. (U.S. Patent No. 5,274,006).

For claims 17 and 18, Kagoshima teaches the limitations of claim 1 above. In column 11, lines 1-10, Kagoshima teaches that the compositions are used as heat-insulating materials in electric appliances. It is the examiner's position that this teaching inherently includes semiconductor encapsulants, or as suggested by the reference it would have been obvious to one of ordinary skill in the art to encapsulate semiconductor parts with the compositions taught by Kagoshima.

11. Claims 17 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lamon et al. (U.S. Patent No. 5,453,453).

For claims 17 and 18, Lamon teaches the limitations of claim 1 above. In column 1, lines 5-12, Lamon teaches that the compositions are used as heat-insulating materials in aerospace applications. It is the examiner's position that this teaching

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inherently includes semiconductor encapsulants, or as suggested by the reference it would have been obvious to one of ordinary skill in the art to encapsulate semiconductor parts in aerospace vehicles with the compositions taught by Kagoshima in order to insulate these parts.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshino (U.S. Patent No. 6,403,668) is cited as being duplicative of the rejections applied above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (571) 272-1092. The examiner can normally be reached on Mon-Fri 7:00-3:00.

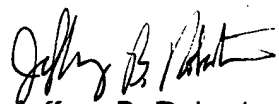
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Jeffrey B. Robertson
Primary Examiner
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JBR